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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,514	11/26/2003	Sim Dong-Hi	2060-3-92	1835
35884	7590	03/21/2011	EXAMINER	
LEE, HONG, DEGERMAN, KANG & WAIMEY 660 S. FIGUEROA STREET Suite 2300 LOS ANGELES, CA 90017				GHULAMALI, QUTBUDDIN
2611		ART UNIT		PAPER NUMBER
			NOTIFICATION DATE	
			DELIVERY MODE	
			03/21/2011	
			ELECTRONIC	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/724,514	DONG-HI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Qutbuddin Ghulamali	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 January 2011.
- 2a) This action is **FINAL**.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 38,40,42 and 44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 38, 40, 42, 44 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ .                                    |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____.   | 6) <input type="checkbox"/> Other: _____ .                        |

## **DETAILED ACTION**

1. This action is responsive to amendment filed 1/19/2011.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/19/2011 has been entered.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103 Miyoshi(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 38, 40, 42 and 44 are rejected under 35 U.S.C. 103 (a) as being unpatentable Kim et al (US Pub. 2002/0004924) in view of Lee et al (US Pub. 2003/0060173) and further in view of Modlin et al (USP 6,480,475).

Regarding claim 38, 42, Kim discloses an apparatus (method) for transmitting data using a plurality of antennas in a mobile communication system, comprising: a data block segmentation unit (422) segmenting a first data block into at least two second data blocks (segments a number of data blocks that could include a first block and other blocks) (page 5, section 0065); a Cyclic Redundancy Check (CRC) attachment unit (a CRC inserter 421) attaching a CRC to each of the at least two second data blocks (page 5, section 0065, 0066, 0067); and wherein the channel status information is a positive acknowledgement (ACK) or a negative acknowledgement (NACK) determined by the receiving side independently for each of the plurality of antennas through which each of the at least two second data blocks and the dummy bits has been transmitted (the examiner respectfully state that

use of ACK/NACK feature in mobile communication is well known in the art for a system to request transmission or retransmission of data in situation of data transmission anomaly response message, ACK/NACK, can be transmitted on physical control channel, a reverse message channel is used when the receiver transmits to the transmitter the signal indicating the receiving results of the received data block. (see for instance Kim 2002/0004924 page 1, sections 0008, 0011, 0012).

Kim however, does not disclose a data block allocation unit allocating each of the at least two second data blocks and dummy bits to the plurality of antennas based on the received channel status information, wherein each of the at least two second data blocks is allocated to an antenna having good channel status and only the dummy bits are allocated to an antenna having bad channel status, wherein the dummy bits are predefined between the apparatus and the receiving side and wherein each of the plurality of antennas transmits the allocated second data block or dummy bits.

However, Lee in a similar field of endeavor discloses allocating data groups (blocks) (page 2, section 0023) each of the at least two second data blocks and dummy bits to the plurality of antennas based on the received channel status information, wherein each of the at least two second data blocks is allocated to an antenna having good channel status (higher priority data through pair of antennas at good transmission status) and only the dummy bits (parity bits, lower priority data through a pair of antennas at poor transmission status) are allocated to an antenna having bad channel status, wherein the dummy bits are predefined between the apparatus and the receiving side (the bits are predefined according to a predefined rule by an interleaver according

to a transmission scheme using antenna arrays in a transmitter and a receiver alone or together to achieve diversity using mutually independent (exclusive) fading signals) (page 1, sections 0006, 0007) and wherein each of the plurality of antennas transmits the allocated second data block or dummy bits (parity bits) (page 3, section 0029, 0034-0036; page 4, sections 0062; page 4-5, section 0067).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign dummy bits (parity or redundant bits or lower priority data bits) to antennas having bad channel status and assigning data to antenna having good channel status for transmitting data wherein the dummy bits (parity or redundant bits) are predefined as taught by Lee in the system of Kim because it can allow greater reception reliability with data transmission in a mobile communication as a whole. A person of ordinary skill in the art would be motivated to do so as it would increase an overall performance of a mobile communication system. Kim and Lee combined disclose data block allocation allocate each of the at least two second data blocks and dummy bits to the plurality of antennas, however fail to show dummy bits with the attached CRC. Modlin, however, discloses dummy bits (inserter 308, fig. 3) attach dummy bits to CRC from CRC unit 306 as dummy bits attached to the CRC supplied by CRC unit 306 (col. 10, lines 10-37). It would have been obvious to one of ordinary skill in the art at the time of invention was made to use the teaching of Modlin to attach dummy bits to CRC bits with the communication system of Kim and Lee so as to jointly minimize overhead and maximize coding gain.

Regarding claims 40, 44, the CRC is differently attached to each of the at least two data block and dummy bits blocks is implied with the teaching of Modlin as shown above in claim 1 (fig. 3) as would have been obvious to one of ordinary skill in the art.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qutbuddin Ghulamali whose telephone number is (571)-272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.  
March 13, 2011.

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Art Unit: 2611

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/CHIEH M FAN/  
Supervisory Patent Examiner, Art Unit 2611